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Ultra-Processed Food Environments

Aligning Policy Beliefs from the State, Market, and Civil Society

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7.1 Introduction

To transition toward nutrition-sensitive food environments, the increasing availability of and access to affordable ultra-processed food products require urgent action (cf. Reardon et al. 2019; Baker and Friel 2016).[1] This action is critical as increasing the availability of ultra-processed food influences food choices and signals to consumers what to purchase, especially in low- and middle-income countries (Herforth and Ahmed 2015; Baker and Friel 2016).[2] For example, in sub-Saharan Africa where increasing food prices and low incomes play a critical role in determining the food basket, the growing trend of increasing ultra-processed food consumption raises a fundamental concern related to food choices and the increasing prevalence of obesity, stunting, and wasting (Laar et al. 2020; Reardon et al. 2021). Estimates suggest that over 40 percent of all men and women (2.2 billion people) are overweight or obese worldwide (Global Nutrition Report 2021). In many African countries, obesity is increasing, ranging from 13 to 31 percent of the population (Global Nutrition Report 2021). In Ghana, between 2007/08 and 2014/15, the prevalence of obesity and overweight increased by 47 percent and 25 percent, respectively, reaching rates of 15 percent and 24.5 percent, respectively (Lartey et al. 2019). Diet-related diseases are also on the rise in Ghana (Ofori-Asenso et al. 2016). This increasing trend in obesity and overweight is associated with the consumption of ultra-processed foods. Analysis by Reardon et al. (2021) suggests that 10 to 30 percent of processed foods are ultra-processed. Similarly, Mockshell et al. (2022) reveals that ultra-processed foods

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[2] The NOVA classification system categorizes foods as unprocessed, processed culinary, processed, and ultra-processed (Monteiro et al. 2019). "Ultra-processed food products are formulations of several ingredients that, besides salt, sugar, oils and fats, include food substances not used in culinary preparations, in particular, flavors, colors, sweeteners, emulsifiers and other additives used to imitate sensorial qualities of unprocessed or minimally processed foods and their culinary preparations or to disguise undesirable qualities of the final product" (Gibney 2019, p. 3).

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contribute to more than 30 percent of processed foods in Ghana's urban food environment. In Brazil, compared to other types of food, the share of ultra-processed foods and beverages as a proportion of the total value of food purchased at supermarkets is 25 percent higher and prices are 37 percent lower (Machado et al. 2017. The increasing consumption of ultra-processed foods has serious public health implications, especially in developing economies where public health systems are inadequate to deal with emerging health challenges associated with the consumption of ultra-processed foods.

Although this problem has long been a concern to policy and health actors - of relevance is, why is finding solutions to help combat the increasing access to affordable ultra-processed foods so controversial? Analysis of the food environment literature provides clues. Government efforts to regulate and civil society strategies to reduce access to affordable ultra-processed foods have been largely unsuccessful due to limited state capacity, lobbying, and cultural norms (see Baker et al. 2021). While some actors propose the need for more regulations and taxes, others argue that ultra-processed food preferences depend on consumer choices and lobby against such policy instruments (see Popkini et al. 2021). These differing views continue to fuel ultra-processed food versus healthy food debates and have implications for solving the triple burden of malnutrition, i.e., the coexistence of overnutrition, undernutrition, and micronutrient deficiencies in developed and developing economies (cf. Juul and Hemmingsson 2015; Juul et al. 2018; Srour et al. 2019). On the flip side, the ultra-processed food industry's concerns over potential sales and profit losses from regulation lead to financial incentives and market and political actions against reducing ultra-processed foods in the food environment (Fooks et al. 2019; Moodie et al. 2020). The global production network, access to international finance, and global intellectual property rights coupled with hyper-local distribution networks provide leverage and a power base for the ultra-processed food industry to pull strings whenever and wherever possible (Moodie et al. 2020).

These factors constrain state capacity and action by civil society in low- and middle-income countries. The market size of the ultra-processed food industry also plays a significant role in economic development through employment, taxes, infrastructure, technical training, and foreign direct investments in developing economies. For example, policies to regulate or implement a soda tax could lead to revenue losses and counterthreats to governments. For governments aiming to maximize political self-interest for reelection, such policy options are likely not appealing. In contrast, policies focusing on consumer education, food labeling, physical activity, and self-regulation receive more attention from governments and private sector actors. With limited state capacity and high financial incentives from the ultra-processed food industry for lobbyists and political campaign finance, the potential to create and pass policies that aim to reduce the availability and affordability of ultra-processed foods via legislative processes is often thwarted. Through

coalitions and constituent building, scientific evidence on ultra-processed foods that could prove instrumental for legislative policy-making processes and raising consumer awareness has not been able to reach the public domain (Moodie et al. 2020). Similar to tobacco use (WHO 2022), obesity is a leading cause of death worldwide and can have devastating health consequences, such as cancer and cardiovascular disease (WHO 2019). Regulations and policies aimed at reducing cigarette use, such as increased prices, warning labels, and bans on television and radio advertisements could serve as templates for the regulation of ultra-processed foods and the impacts of such policies. For example, increased cigarette prices reduce their use (Doogan et al. 2018) and lead to substantial healthcare savings (Contreary et al. 2015).

Prevailing explanations for the increasing availability of ultra-processed foods and the related implications for malnutrition have examined dominant demand-side factors of consumer food choices using rational choice assumption and metabolic and behavioral risk factors (Moodie et al. 2020; Vermeulen et al. 2020). In contrast, supply-side policies relating to the ultra-processed food environment's beliefs, power dynamics, and coalitions have received limited attention in the empirical literature in low- and middle-income countries. In a recent study by Baker et al. (2021), the authors examine the baby food industry using political economy literature, quantitative data, and qualitative literature reviews to unpack the market and political practices of corporate power. Although the behavioral economics literature examines consumer food preferences (cf. Lappalainen and Epstein 1990; Heshmat 2011; Just 2011), there has been limited attention given to ultra-processed foods (Karnani et al. 2016). In the literature, behavioral changes have been conceptualized through the lens of rational choice theory (Vermeulen et al. 2020), which postulates that a consumer has relevant knowledge about the food environment and when faced with options will act rationally by choosing the option that maximizes utility (Simon 1955; Scott 2000). This explanation has some limitations, as consumers do not always act "rationally" as implied by classical economic models due to factors such as information asymmetry and time-inconsistent or "present-biased" preferences (O'Donoghue and Rabin 2000), which often lead people to choose foods based on convenience (Liu et al. 2014). A study conducted in poor neighborhoods of Accra shows a positive association between purchasing food from convenience stores and individual body mass index, implying that access to convenience stores increases the risk of obesity (Dake et al. 2016).

Income also plays a critical role affecting consumer choice with differing effects depending on the level of economic development in the country. Due to differences in food prices, affordability, and accessibility, in high income countries, people with low incomes tend to consume more ultra-processed foods, whereas in middle- and low-income countries such as Ghana people with high incomes tend to consume more ultra-processed foods (Shim et al. 2021; Baker et al. 2020).

High household wealth is associated with higher odds of overweight, obesity, and central adiposity in Ghana (Lartey et al. 2019). In low income and high food price settings, such as in urban environments in Ghana, consumer food choices are constrained to accessible and affordable food options (Mockshell et al. 2022). Food choices are also influenced by a combination of cultural, taste, infrastructure, social, and cognitive processes, including supply-side factors relating to the food environment and policy landscape (Herforth and Ahmed 2015; Vermeulen et al. 2020).

To evaluate such a polarized, complex, and important topic, this chapter takes a step beyond the rational choice assumption and applies a political economy approach by combing the Advocacy Coalition Framework (ACF) developed by Sabatier and Jenkins-Smith (Jenkins-Smith and Sabatier 1994; Weible and Sabatier 2017) with the discourse analysis approach developed by Hajer (1995) and Van Dijk (2004) to unravel policy beliefs and coalitions in the ultra-processed food environment. Although recent literature emphasizes the role of beliefs in agri-food systems (Mockshell and Birner 2015; Resnick et al. 2018), empirical analyses using a political economy analysis to examine the increasing access to ultra-processed foods are limited. By applying a political economy analysis, this chapter aims to unravel the coalitions and beliefs influencing access to affordable ultra-processed foods, using Ghana as a case study. A political economy analysis complements the dominant consumer food choice analysis to pick apart the food environment policy subsystem. The political economy approach is necessary to identify often-neglected issues, namely contestations, power dynamics, beliefs, ideas, interests, coalitions, cooperation, and policy aims of stakeholders in the food environment (Resnick et al. 2018). To identify policy beliefs, discourse is a communicative process in which a set of ideas is expressed as a written or verbal product (Van Dijk 1998). Discourse analysis serves the critical purpose of unveiling the perceptions, goals, beliefs, and value priorities that actors deploy in a policy subsystem (Shanahan et al. 2011). While the self-interest assumption covers components of instrumental and structural policy strategies, the aspect of policy beliefs that are associated with discursive strategies is missing in the empirical evidence (see Baker et al. 2021).

Discursive strategies reveal the underlying policy beliefs embedded in the discourses of actors in the food environment. Examining aspects of discursive strategies provides an opportunity to examine the following questions: Why has achieving alignment among state, market, and civil society actors toward reducing ultra-processed foods not happened yet and what policy options are necessary for policy change? This chapter builds on recent research on urban and informal food environments (cf. Turner et al. 2018; Fooks et al. 2019; Resnick et al. 2019; Laar et al. 2020; Moodie et al. 2020; Gomez 2021), food deserts versus food oases, retail diversity, and nutrition-sensitive value chains (Allen and de Brauw 2018). Ghana provides an applicable case study as the population of this developing

economy is growing at an annual rate of 2.2 percent and experiencing urbanization at an annual rate of 3.3 percent (see UN-DESA 2018, 2019) and ranks high among countries with high obesity rates (greater than 20 percent) in Africa. Moreover, urban residency has been found to be associated with higher odds of being overweight, obese, and central adiposity (Lartey et al. 2019). In urban areas in Ghana, the food environment is experiencing a rapid increase in supermarket retail outlets, convenience stores, and fast-food restaurants (Andam et al. 2018), which can be witnessed in many other low- and middle-income countries as well (Monteiro et al. 2013). This chapter focuses on advancing our understanding of the role of policy beliefs and coalitions in ultra-processed food environments in low- and middle-income countries and presenting strategies to reduce the persistent state, market, and civil society organization (CSO) failures. The remainder of this chapter is structured as follows: The next section presents the research methods, the results are presented in Section 7.3 and discussed in Section 7.4, and Section 7.5 provides concluding remarks.

7.2 Research Methods

A political economy approach is employed to answer two key questions of interest: (1) Why is finding solutions to help combat the increasing access to affordable ultra-processed foods so controversial? and (2) Why has achieving alignment among state, market, and civil society actors toward reducing ultra-processed foods not happened and what strategies are necessary for policy change? This analysis aims to advance our understanding of the role of policy beliefs and coalitions in ultra-processed food environments, using Ghana as a case study. To identify the stakeholders and examine coalitions and discourses, an integration of empirical qualitative data and partly transformed quantitative data from in-depth interviews is adopted. The study process involves the following steps: (i) the application of the theoretical framework; (ii) data collection; (iii) theme development; (iv) statistical analysis; and (v) the synthesis of narratives into insights to identify options for policy change.

7.2.1 Theoretical Framework

A theoretical framework that combines the ACF developed by Sabatier and Jenkins-Smith (Jenkins-Smith and Sabatier 1994; Weible and Sabatier 2017) and the discourse analysis approach developed by Hajer (1995) and Van Dijk (2004) is used. Actors with similar perceptions, values, and beliefs form a discourse and advocacy coalition to solve a policy problem. A discourse coalition is defined as an ensemble of storylines, the actors that utter the storylines, and the practices

through which the storyline is expressed (Hajer 2006). The ACF provides the theoretical framework to identify advocacy coalitions consisting of different actors who share a set of ideas and policy beliefs in a policy subsystem (Jenkins-Smith and Sabatier 1994). The ACF is particularly suitable to analyze contested food environment policy failures as it embodies the concepts of policy subsystems, policy beliefs, coalitions, policy-oriented learning, and policy change (Jenkins-Smith et al. 2014). The ACF also has a dominant focus on how actors' beliefs, ideas, and interests drive policy preferences (Schlager 1995).

In the ACF, stakeholders who share a belief system form a coalition and work within a policy subsystem (Jenkins-Smith and Sabatier 1994). Coalition members with similar beliefs interact and engage in a significant degree of coordination and planning to influence policy in a subsystem (Weible et al. 2009; Elgin and Weible 2013). A policy subsystem consists of multiple stakeholders: government officials, interest groups, researchers, academia, media, and market sector actors concerned with a problem (Weible 2007). Coalitions in the subsystem form beliefs about practical solutions and coordinate activities in the policy process to influence policy outcomes (Weible 2007). Belief systems can be updated, altered, or changed through policy-oriented learning and crises.

The policy belief system is a fundamental concept in the ACF. A policy belief system includes value priorities, perceptions of world states, and views of the efficacy of policy (Sabatier 1988). In the ACF, beliefs are classified into a hierarchical, tri-partite structure. In the first structure, deep core beliefs involve general normative assumptions and are difficult to change. For example, beliefs about the role of government versus market, and left versus right ideas. In the second structure, core beliefs change more easily than deep core beliefs and represent causal perceptions across an entire policy domain. In general, core beliefs involve the application of deep core beliefs in a policy subsystem. For example, the relative authority of the government versus the market in food policies. In the case of market or government failure, there is an opportunity to change core beliefs related to food policies (Jenkins-Smith and Sabatier 1994). The third and final structure consists of secondary beliefs, which are the easiest to change, are relatively narrow in scope, and address issues within a specific program or policy (Sabatier and Weible 2007). For example, changing budgetary allocations within a food subsidy program requires less evidence and agreement among actors in the food policy subsystem.

In a policy subsystem, learning is critical for coalition members to understand the world and leverage political strategies for achieving policy goals (Jenkins-Smith and Sabatier 1994; Jenkins-Smith et al. 2014). While internal coalition learning is much easier, achieving cross-coalition learning depends on the extent to which actors perceive it as a threat to their core beliefs (Jenkins-Smith et al. 2014). At low and high levels of contested debates, there is little cross-coalition learning (Jenkins-Smith et al. 2014). At a high level of contested debates, actors defend their positions and reject information that undermines their beliefs, while at a low level,

stakeholders focus on their own policy sub-system affairs (Jenkins-Smith et al. 2014). An intermediate level of contested policy debates increases cross-coalition learning as opposing coalitions are threatened just enough to pay attention and remain receptive to current information (Jenkins-Smith et al. 2014). Promoting policy-oriented learning is fundamental to achieve policy change. Policy learning can take place in workshops and conferences where coalitions can interact, debate, disagree, and negotiate (Jenkins-Smith et al. 2014. In cases of conflicts among coalitions that hinder policy change, policy brokers can play a mediating role to facilitate cross-coalitions policy learning (Jenkins-Smith and Sabatier 1994; Jenkins-Smith et al. 2014;). Policy change is classified into "minor policy change" involving alterations in secondary aspects of policy beliefs and "major policy change" involving alterations in core aspects of policy beliefs (Jenkins-Smith et al. 2014, p. 201).

7.2.2 Qualitative Data Collection

To apply the ACF and discourse analysis, a set of qualitative in-depth interviews was conducted in the case study country, Ghana. Ghana provides an excellent case study due to its influx of ultra-processed foods, rapid urbanization, and increasing incidence of non-communicable diseases (see Andam et al. 2018; Laar et al. 2020; Mockshell et al. 2022). To examine the ideas, beliefs, and coalitions in the food environment, Yanow's (2000, pp. 26–39) approach of "accessing local knowledge" by combining in-depth interviews and document analysis is applied. The sampling procedure for the respondents started with the enumerator team and the lead researcher mapping the stakeholder organizations that were involved in the food environment policy subsystem by using the stakeholder landscape assessment approach. Through key informant interviews and document analysis, this involved mapping actors engaged in agriculture and food policy, health, nutrition, media, interest groups, and private food industry that are spread across Ghana. Based on the map, interviewees were selected through purposive and snowball sampling techniques that took into consideration their areas of expertise, institutional affiliations, willingness to participate, and geographic location. Additional respondents were identified based on the qualitative research principle of "completeness" (covering the broad spectrum of actors) and "dissimilarity" (respondents with diverse perspectives) (Blee and Taylor 2002). Data and respondent triangulation were employed to check for internal validity and to select more respondents (Golafshani 2003; Guion et al. 2011). The respondents fall into the following categories: state actors, interest groups, industry, knowledge brokers, and media.

Using a semi-structured interview approach, in-depth interviews that lasted one to two hours were conducted with food environment stakeholders. The interview questions were framed around the following questions: (1) Who are the

Table 7.1 Interviewed stakeholders for in-depth interviews

Type	Number
State sector	14
Government ministries and agencies	6
Academia	5
Parliamentarians	3
Civil society organizations (national and international)	5
Private sector food companies	3
Total	22

Note: Out of 15 private food industry sector stakeholders approached, only three were willing to talk to the research team.

main actors and institutions in the food environment policy subsystem?; (2) What are the ideas, incentives, and interests of the actors and institutions in the food environment policy subsystem?; (3) What are the challenges of regulating ultra-processed foods and supplying healthy food options in the food environment?; and (4) What are the policy strategies for transforming the food environment to supply healthy diet options? A total of 22 stakeholders were interviewed throughout Ghana, covering the major regional capitals of Accra, the Cape Coast, Kumasi, and Koforidua. While this sample might seem small, in this context the focus of the qualitative research is achieving a representation of the different stakeholders with knowledge, expertise, and experience in the ultra-processed food policy domain. Based on an assessment of the main actors, this sample adequately covers the main stakeholders. These stakeholders were in the public sector, civil society organizations, and the private food industry (see Table 7.1). State sector actors include policy actors from government ministries and agencies, academia, and parliamentarians. In-depth interviews with the actors were recorded with participant consent and transcribed for analysis. The data collection phase was from September 2020 to November 2020. Although the sample size in each category is small, it represents the main stakeholders who were willing to participate in our study. In a qualitative study, the emphasis of data collection focuses on achieving saturation and richness of various perspectives using participant triangulation approaches. The objective of the study is not to derive statistically significant results, but to examine the policy beliefs of different actors. Thus, the sample size does not necessarily limit the quality of inference from the study. Efforts focused on obtaining a broad spectrum of actors across the different domains in the policy subsystem.

7.2.3 Data Analysis

Transcripts were uploaded into NVivo (Version 12) for analysis. The original texts were coded, and storylines were identified. More codes were identified and

aggregated with the initial codes into policy themes (policy beliefs). Overall, a total of 31 policy beliefs were identified following the coding. Table 7.3 describes the policy beliefs in more detail. Major storylines, including specific phrases from the interviews are provided.

To perform factor and cluster analyses, the qualitative data was transformed into quantitative data. The data transformation followed an approach developed by Mockshell and Birner (2015) and further applied by Mockshell and Birner (2020). Each policy belief identified from the content analysis was assigned a binary value (1 = yes, if the policy belief appeared in the narrative of a respondent and 0 = no, if otherwise). From the coding, a total of 31 policy beliefs were found (see Table 7.2). Factor analysis with the principal component extraction method using the oblique rotation method was conducted (see Mockshell and Birner 2015). Factor analysis revealed patterns in the 31 policy beliefs and categorized them into consistent groups (components). After the factor analysis, a two-step cluster analysis using both hierarchical and K-means clustering was conducted to explore how the various actors cluster around the 31 policy beliefs. Cluster membership was determined and cross-tabulated using an identification variable for each actor. Cluster analysis was used to identify coalitions based on shared policy beliefs. Identified policy beliefs were analyzed to examine the discourses of each respondent.

7.3 Identification of Policy Discourse Coalitions

The results show that the identified clusters share similar policy beliefs within and across the cluster groupings (named coalitions), but that these clusters (coalitions) differed on other policy beliefs as illustrated in Table 7.2. Following the conceptual framework described in Section 2, the actors within each cluster are referred to as "coalitions" because they share a similar policy discourse, reflecting similar policy beliefs. The three clusters are labeled "state coalition," "market coalition," and "CSO coalition." These labels were selected to reflect the composition of actors in the three coalitions. However, these labels do not imply that, for example, all state sector actors are members of the state coalition or that all CSOs are members of the CSO coalition. There are also differences within the coalitions. From the analysis, a total of 10 stakeholders belong to the state coalition, which is dominated by actors from the state sector. The 12 remaining actors belong to the CSO, and market coalitions as illustrated by Table 7.2. The next section examines the policy beliefs of the different actors in the food environment.

7.3.1 Food Environment Policy Beliefs

The food environment policy beliefs that emerged from the factor analysis are described in Table 7.3. Bartlett's test of sphericity is significant

Table 7.2 Participants in the discourse coalitions (identified by cluster analysis) (N = 22).

Coalition members	State sector coalition	CSO coalition	Market sector coalition
State	8	3	3
CSOs	2	2	1
Market	0	0	3
Cluster sizes	10	5	7
Cluster distribution (%)	45.5	22.7	31.8

Note: "CSO" refers to civil society organization.
Source: In-depth interviews.

(chi-square = 3,563.413; $p < 0.000$), showing that the correlation between variables is adequate for factor analysis. Using the Kaiser rule, all factors with eigenvalues greater than 1 were retained (Field 2018). Based on this rule, 10 principal components (i.e., policy beliefs) were extracted, which together explain 83 percent of the error variance. Factor loadings with absolute values of more than 0.30 were initially selected. Using variables with the highest factor loading rule in each component, the policy themes (i.e., policy beliefs) that emerged were labeled to reflect the variables in the component (see Table 7.3). Access to and prevalence of ultra-processed foods, education and awareness, and limited government resources contribute more than 10 percent per component of the explained variance, making them the most dominant policy beliefs. Social classism together with consumer preferences and affordability, weak enforcement, short-term policy focus and profit motivations, and weak institutions contribute a range of 6 to 8 percent per component of the explained variance thereby falling in the middle range of dominant policy beliefs. The high cost of producing healthy foods and lifestyle changes are the least dominant policy beliefs.

7.3.1.1 Shared Food Environment Policy Beliefs

The state, market, and CSO coalitions share a fundamental belief on the increasing presence of affordable ultra-processed foods in the food environment and on the need for more regulation in the food environment. According to an academic respondent in the state coalition, "These energy-dense and nutrient-poor foods are accessible. When you turn left or stretch an arm, you are bound to come across these energy-dense and nutrient-poor foods" (R4).[3] Across the three coalitions, there is also a strongly held belief that lower prices of ultra-processed foods relative

[3] "R" stands for "respondent"; "R4" stands for respondent number 4. These labels are used throughout the chapter to protect the respondents' anonymity.

Table 7.3 Food environment policy beliefs identified by factor analysis

Variable	Policies and prevalence of ultra-processed foods	Education and awareness	Limited government resources	Production incentive	Social classism, consumer preference, and affordability	Weak enforcement	Short-term policy and profit motive	Weak institutions and fragmentation	High cost of producing healthy foods	Self-interest and lifestyle changes
High availability of ultra-processed foods	**0.31**	−0.09	**−0.64**	0.22	**0.31**	−0.04	**−0.42**	0.11	−0.13	0.15
High affordability of ultra-processed foods	**0.31**	0.23	−0.25	−0.01	**−0.73**	0.05	0.08	0.04	−0.01	−0.07
High accessibility of ultra-processed foods	**0.66**	**0.40**	−0.07	−0.08	−0.17	0.00	0.02	−0.26	−0.19	0.08
High cost of producing healthy diet options	−0.09	0.05	−0.18	0.00	0.12	−0.13	−0.01	−0.02	**0.90**	−0.14
Inadequate standards and regulations	0.09	−0.14	0.24	**0.58**	0.19	**0.39**	0.28	0.13	0.23	0.20
Lack of enforcement	0.05	−0.07	−0.03	0.06	−0.09	**0.93**	0.24	0.00	−0.13	−0.05
Limited resources	−0.05	−0.02	**0.77**	−0.21	−0.01	0.02	−0.09	0.12	−0.12	0.16
Policy maker (politician) self-interest	−0.20	−0.13	−0.13	**0.82**	−0.18	0.08	−0.09	−0.12	0.15	**0.34**
Influence of lobby groups	−0.19	**−0.38**	−0.21	0.11	−0.28	**−0.44**	−0.23	0.28	0.13	**0.42**
Lack of policies	**0.48**	0.23	0.16	0.00	0.07	−0.27	0.21	**0.58**	−0.06	0.00
Limited/imperfect information	0.21	0.17	**0.35**	0.01	**0.57**	0.02	**−0.37**	0.14	−0.14	0.26
Policy myopia (short-term fix)	0.12	−0.18	0.18	0.02	0.06	0.18	**0.82**	0.05	−0.04	0.09
Fragmentation and weak coordination	−0.04	**0.84**	0.24	0.17	−0.08	−0.23	−0.03	0.01	−0.08	0.12
Weak institutions	0.14	0.16	0.03	−0.09	−0.03	−0.08	0.10	**−0.86**	0.09	0.08
Lifestyle changes and changing diets of urban residents	0.04	0.10	0.15	0.00	0.06	0.05	0.21	−0.08	−0.07	**0.79**
Convenience and time constraints	0.20	0.15	0.10	−0.20	−0.27	0.10	−0.15	**−0.36**	**0.63**	0.27
Consumer preferences	0.06	0.05	−0.20	−0.08	**0.90**	0.01	0.13	0.06	0.03	−0.09
Education	−0.01	**0.86**	−0.01	−0.07	−0.06	0.06	−0.06	−0.09	0.08	−0.03

Continued

Table 7.3 *Continued*

Variable	Policies and prevalence of ultra-processed foods	Education and awareness	Limited government resources	Production incentive	Social classism, consumer preference, and affordability	Weak enforcement	Short-term policy and profit motive	Weak institutions and frag-mentation	High cost of producing healthy foods	Self-interest and lifestyle changes
Social classism	−0.11	−0.26	−0.11	**−0.34**	**0.51**	0.03	**0.51**	−0.02	−0.05	0.15
High profit motive	−0.03	**0.43**	−0.17	0.17	−0.03	−0.24	**0.60**	−0.15	−0.05	0.28
Aggressive advertisement	**0.39**	0.23	−0.07	0.12	0.07	**−0.61**	0.15	0.03	0.26	0.14
Free market and global trade	−0.19	0.20	−0.09	**0.75**	−0.07	−0.12	0.02	0.07	0.02	**−0.36**
High imports of cheap, ultra-processed foods	0.07	0.06	**−0.60**	−0.17	−0.25	−0.03	0.28	**0.45**	0.06	0.25
Taxes for ultra-processed foods	**0.61**	0.30	−0.07	0.02	0.16	**0.35**	−0.08	**0.38**	0.12	−0.24
Production incentives (subsidies) for healthy food options	0.20	0.03	−0.13	**0.83**	0.00	−0.06	−0.02	0.11	−0.26	−0.05
Education, awareness, and advocacy	−0.28	**0.44**	−0.05	−0.28	0.07	0.20	−0.30	0.24	0.12	0.23
Regulations and standards	−0.09	0.13	−0.15	−0.02	0.10	**0.69**	−0.25	0.04	0.09	**0.31**
Control advertisement	**0.84**	−0.16	0.11	0.17	0.08	−0.14	−0.02	0.17	0.20	0.07
Increase government funds	0.04	0.25	0.77	0.01	0.09	−0.14	0.22	−0.13	−0.01	0.15
Government policies	0.81	−0.29	−0.21	−0.20	−0.16	−0.05	0.09	−0.15	−0.09	−0.02
Evidence based on research for policy and stakeholder engagements	0.24	−0.40	0.44	0.07	−0.20	−0.07	0.11	0.14	0.50	−0.02
Proportion explained	*0.14*	*0.13*	*0.11*	*0.10*	*0.08*	*0.07*	*0.06*	*0.06*	*0.04*	*0.04*

Note: Oblinim rotation method (Kaiser normalization) were used for this analysis. Factor loadings over 0.30 appear in bold. Bartlett's test of sphericity (chi-square = 3,563.413; p-value = 0.000).
Source: In-depth interviews.

to healthy and local foods is a major driver of consumer food choices. For example, a government official highlighted that "sugar-sweetened beverages are relatively cheaper than fruits and vegetables, irrespective of the season" (R2). Prevailing low income is highlighted as a driver of consumer demand for ultra-processed foods. A CSO coalition member also highlighted that "they [ultra-processed foods] tend to be cheaper so that even the daily-income wage earner in these urban areas can go in for these highly processed foods" (R14). The easiness of reaching a large population with ultra-processed foods are shared beliefs influencing production decisions of the food processing industry. Institutional weaknesses and fragmentation of policies are other recurring beliefs across the coalitions. A respondent expressed, "I will also talk about the various institutions that are in this sector. Because there is poor coordination, it becomes difficult for the regulatory authorities to take a stand or act" (R15).

7.3.1.2 State Coalition Food Environment Policy Beliefs

Social classism was a recurring metaphor. There was the belief that consuming ultra-processed foods places individuals in an elite and high-income social group. As most ultra-processed foods are imported, the products are considered as western-style convenience foods, which are associated with ideas of "foreign" and "modernity." The growing middle-class demands ultra-processed foods to establish their social identity. According to a state coalition actor, "It looks like people think that if you eat ultra-processed food then you find yourself in the elite bracket" (R7). Over time, consumers develop a taste for ultra-processed foods, which become part of everyday diets and difficult to control. A member of Parliament mentioned, "People have developed the taste for it [ultra-processed foods], so when people are addicted in a way or used to a certain type of food, it is not easy for them to get out of it" (R19).

Profit motives in the processing food industry are highlighted by the state coalition as a factor that increases the supply and availability of ultra-processed foods. A respondent from a government agency noted: "The food industry is driven by, of course, profits… So, they also invest money into the areas that they think will derive the highest benefits possible" (R22). Profit motives drive the food industry to engage in aggressive advertising and deals, as mentioned by an academic respondent: "These food products come in all the time with aggressive advertising. They promote 'buy one, get one free,' and so you are forced to buy stuff that you may not even have thought of buying" (R5). To find solutions to the increasing access to affordable ultra-processed foods, the state coalition share the belief that inadequate capacity of regulatory bodies to provide proper and effective monitoring to ensure strict compliance has been a major challenge. According to a respondent from a government ministry: "I think even though the regulations are there, we all know that sometimes the enforcement is weak" (R12). Without effective enforcement, the private sector, which produces and markets these food

products, can easily evade labeling. A respondent from a regulatory agency mentioned, "The standards have been set, but the problem is enforcement, which lies with the metropolitan, municipal, and district assemblies and then the Food and Drugs Authority" (R6).

7.3.1.3 Market Coalition Food Environment Policy Beliefs

The market coalition discourse highlights inadequate infrastructure for storage, transport, distribution, and processing as challenges affecting the availability of healthy food products. These challenges are attributed to the high cost of establishing the relevant infrastructure for healthy foods compared to that for ultra-processed foods. According to a respondent: "Compared to ultra-processed food, the cost that is involved in ensuring that your perishables stay fresh and appealing, is significantly higher than having your ultra-processed food in the pack that can stay for months and sometimes even years" (R2). In the discourse of the market sector coalition, the high cost of producing healthy foods offers a motivating factor for entering the ultra-processed food business. "Short term and quick policy fixes" are highlighted as the reasons for inadequate infrastructure supplying healthy diet options. The market coalition also argues that food policies prioritize food production with less attention to other components of the food system, such as distribution, storage, and consumption (i.e., consumers' nutrition and health outcomes).

Inadequate standards, regulation, and enforcement are metaphors in the market coalition. According to a respondent "there is room for legislation. We need new legislation on how to communicate food information and strengthen the existing ones to prevent unethical marketing of processed foods to our population" (R3). The respondent continued: "There are signboards in many school premises that are sponsored by food companies. That is a challenge, and it needs to be regulated. But the problem is that we currently do not have specific regulations on what kind of restrictions should be in place for marketing unhealthy foods to children" (R3). The market coalition believes that weak enforcement by state institutions is a major challenge. Another respondent added "I think even though the regulations are there, we all know that sometimes the enforcement is weak" (R12).

7.3.1.4 CSO Coalition Food Environment Beliefs

Like the market coalition, CSO actors highlighted that a major factor influencing the shift to more convenient ultra-processed foods is the high cost of producing alternative healthy food options. According to coalition members, production of healthy food options in Ghana is expensive. Some coalition members advocated production incentives for farmers. According to a respondent, "The policy is to try to make healthy foods more affordable and how do you do that? It will mean

encouraging more farmers to produce more, by providing them with inputs" (R1). Another respondent from the CSO coalition stressed this point: "In the area of pricing, it is very important for government to implement subsidies that would increase the affordability of healthy foods" (R15).

Policymakers' self-interest was a recurring policy belief in the discourse of the CSO coalition. According to a respondent, "Big private firms have the money to sponsor politicians and … they sometimes influence politicians, so that they are not able to stop them from producing ultra-processed foods" (R10). Another respondent highlighted, "Frankly, it is quite difficult but, first, looking at the political will and interest, you will be surprised to know that powerful people are behind the importation of such foods in the country. So, if you have such powerful people who are behind these foods getting into the country, the question is how do you stop them from doing their business? … it is quite difficult" (R8). Another respondent said, "It is particularly important for the government to pass legislation that would regulate the promotion and the advertisement of foods and drinks with all the added sugars. … There are still a lot of products on the market that do not have labels for you to have confidence that the product you are buying is safe" (R15).

7.3.1.5 Clash of Food Environment Beliefs

The tendency to blame other actors for persistent challenges in the food environment also emerged. Some members in the state sector coalition blamed CSOs for doing little to create the needed public awareness about the health effects of ultra-processed foods. For instance, a regulator from the state discourse coalition mentioned: "We as regulators, we want to see strong advocacy going forward in areas that deal with nutrition because per our mandates, we cannot go out and be preaching against what people should eat. Our job is to ensure safety, once the product is safe, it is safe" (R22). Some CSO coalition members countered this assertion and showed that they are doing a lot in terms of advocacy and putting pressure on the government to ensure a healthy food environment. Instead, they blamed the media for its lack of information dissemination. This was highlighted as: "The media can support the dissemination of information.… This is very key, so we cannot leave them out" (R15). Because of low levels of awareness of ultra-processed foods, improving communications through strong advocacy and increased education are provided as instruments to encourage behavior change. As a member of parliament puts it, "Yes, it is good to regulate, but I think that we must first educate the public. Let them understand the advantages and disadvantages of consuming such [ultra-processed] foods" (R20). While the state coalition believes that their role is to certify food products, the CSO coalition held the belief that the state coalition needs to do more by also checking the nutritional content of the food in the market to ensure labels are accurate.

7.4 Discussion

As discussed in the introduction, the objective of this chapter was to contribute to a better understanding of the prevailing policy beliefs and dissect the coalition landscape influencing access to affordable ultra-processed foods. Combining the ACF and discourse analysis, this chapter reveals a trichotomy of coalitions in the food environment, consisting of state, market, and civil society actors sharing policy beliefs on ultra-processed food environment issues and having independent and divergent policy beliefs on other issues influencing access to ultra-processed foods. As highlighted in the research methods section, beliefs provide a foundation for examining the different perspectives of policy stakeholders and discourse analysis reveals the underlying storyline shaping stakeholders' beliefs. With the increasing prevalence of ultra-processed foods, existing explanations for this persistent problem based on only self-interest assumption of actors as explained in the rational choice theory literature are inadequate. The political economy analysis employed in this study provides additional insights to complement the existing consumer and demand analysis studies to contribute to finding solutions. In this section the discussion will focus on the relevance of the policy beliefs in answering two fundamental questions: (1) Why is finding solutions to the increasing access to affordable ultra-processed food so controversial? and (2) Why is achieving alignment among state, market, and civil society actors toward reducing ultra-processed food not happening and what policy options are necessary for policy change?

7.4.1 Ultra-processed Food Environment Policy Beliefs and Coalitions

As the results highlight, the policy beliefs of the different coalitions reveal that the food industry produces and sells ultra-processed foods because they are more profitable than healthy foods due to their low cost of manufacturing, storage, and transportation. The industry is also guided by consumers' tastes and preferences in producing and selling hyper-palatable, addictive, ultra-processed foods. The food industry is perceived to be driven by profit motives and engaged in more aggressive advertising, as echoed by the discourse of the state coalition (see Monteiro et al. 2013). This criticism can easily be substantiated, especially since profit maximization is the goal of companies in a competitive food market environment. However, profit interests could drive the food industry to lure consumers and influence consumption patterns which would have implications for the triple burden of malnutrition. This behavior in the food industry is explained by Nobel-Prize-winning economists George Akerlof and Robert Shiller in their book *Phishing for Phools: The Economics of Manipulation and Deception*, which challenges the

notion that free markets lead to material well-being. They argue that in a market equilibrium and given profit motives, food companies will try to manipulate ("phish") consumers into buying products that they are led to believe will satisfy their preferences but are not in their best interests ("phools") (Akerlof and Shiller 2015). Profits can also drive the ultra-processed food industry to advocate industry narratives that promote alternative solutions to healthy food policies that can shape beliefs and perceptions about their role in the food environment (Global Health Advocacy Incubator 2021). While profits are necessary to food companies' survival, they have implications for combating the increasing availability of ultra-processed foods and growing malnutrition. The fear of losing profits is part of the core belief system of the ultra-processed food industry to use financial incentives, market action, and political practices against the reduction of ultra-processed foods to counter both government regulations and CSO advocacy (see Baker et al. 2021). As the interviews revealed, these actions lead to the belief by the state and CSO coalitions that private food companies engage in lobbying activities. While this is a potential maximization of the political objective function (Swinnen 2010a; 2010b), the effect of lobbying undermines public health promotion efforts and the objective function of CSOs to advocate for a healthier food environment.

Failure of the food market to provide healthy diet options has implications for human health and calls for government legislative intervention to create an environment that promotes healthy foods. Healthy foods depend upon the local context and can be defined by accepted dietary guidelines (cf. Cohen et al. 2016). However, in Ghana, there are no food-based dietary guidelines. Indeed, in Africa, there are only seven countries that have national food-based dietary guidelines. Ghana began the process of developing these guidelines in 2016 but has not yet made them public (Aryeetey and Edd 2022). Such guidelines can influence policies and initiatives, including school feeding programs, nutrition information, and food regulations.

In Ghana, government policy actions in the food environment have been slow to respond and are increasingly challenging to implement due to the growing influence of commercial interests and conflicting policy beliefs among policy stakeholders. As highlighted in the interviews, weak state capacity in Ghana makes it challenging to enforce regulations relating to ultra-processed foods at the national, municipal, and local levels. Some government agencies also hold the belief that their main responsibility is to ensure that "food is safe and thus the nutritional content is of less priority." These beliefs limit the scope of their work and enforcement mechanisms—with implications on the increasing prevalence of ultra-processed foods. As the evidence suggests for the food environment in Ghana, without strong regulations in the free market, the market is left to supply and demand, and self-interests can potentially lead to serious market failures.

In Ghana, CSOs could play a significant role in the food environment by providing consumers information through public discourses and coalitions to make

healthy food choices. However, CSOs have also been less effective due to information asymmetry, the influence of lobby groups, and power imbalances. Most consumers are not perfectly rational due to lack of perfect knowledge and because they are subject to bounded rationality (Jolls et al. 1998; Scott 2000; Sunstein and Thaler 2003). When consumers suffer from such cognitive failures, they make choices that may not maximize their welfare. This is particularly the case in developing economies like Ghana, where food choices are constrained by access to healthy food products, income, and food prices (see Mockshell et al. 2022). In such situations, Adam Smith's "invisible hand" argument that firms pursuing their own self-interests incidentally promote the welfare of the society does not apply because private profits and public health interests' clash as revealed by the discourses of the respondents. The consumption of ultra-processed foods suggests that being overweight or obese with the associated burden of diseases resulting from unhealthy food consumption is not simply an individual choice but is also due to differences in the beliefs of the trichotomy in the food environment. Thus, rational choice and bounded rationality arguments are not entirely adequate to explain why consumers choose ultra-processed foods. These arguments contribute to the lack of alignment of the state, market, and CSO beliefs. To contribute to solving this problem, Sunstein and Thaler (2003) proposed an approach based on the concept of "libertarian paternalism." They recommend that with bounded rationality and bounded self-control, libertarian paternalists (i.e., private and public institutions) should steer people's choices to nudge them away from bad choices without eliminating their freedom of choice. In a systematic review, Bucher et al. (2016) conclude that such nudging strategies can influence food choices.

7.4.2. Aligning State, Market, and CSO Coalitions for Food Environment Policy Change

These insights call for examining solutions to reduce the prevalence of ultra-processed foods in the food environment. From the ACF, policy-oriented learning and external shocks provide pathways for achieving policy change (Weible and Sabatier 2017). Policy-oriented learning would require evidence-based research to influence coalition beliefs. The evidence generated from this research highlights some entry points for policy-oriented learning and policy change. While policy belief updating among coalitions would be a gradual process, external shocks such as alarming obesity rates and pandemics could trigger a more rapid policy response in the food environment. These two pathways also provide an opportunity within and across coalitions to identify "policy change packages" (Fesenfeld et al. 2020) that can create incentives to alter stakeholder beliefs and actions in the food environment. Addressing chronic malnutrition requires a corresponding multidisciplinary and multi-sectoral governance response that is

lacking in developing economies. Indeed, Gillespie et al. (2019) highlight that nutrition interventions and programs cannot be successful without the political commitment and active support of many actors. Instead of implementing just one silver bullet, there is a need to combine different policy options, such as a tax on unhealthy foods together with a labeling law for such foods, and education awareness (Shah et al. 2013). Below, we elaborate on various policy instruments that could be applied to make food environments healthier.

Subsidies can be used as a bundled policy option to support access to healthy foods. Both the government and CSOs share beliefs on this policy instrument. A subsidy can catalyze a decline in food prices or an increase in real income or purchasing power, thereby enhancing financial and physical access to healthy foods (Mockshell et al. 2022). For example, a systematic review and meta-analysis of prices of healthy and less healthy foods and diet patterns found that healthy foods and diets cost more per day and per calorie than less healthy foods (Rao et al. 2013). Thus, subsidies could be given to local food vendors and convenience stores to encourage them to sell healthy foods at more affordable prices (Holdsworth et al. 2020). While government subsidies have often been spent on protecting and incentivizing the production of staple foods, such as maize and rice (Anderson and Masters 2009), complementarities to staples, such as fresh fruits and vegetables and legumes, have not received much attention. Differences in beliefs on the effectiveness of production subsidies prevail due to past governance challenges in managing input subsidy programs, creating an impasse among policy actors in Ghana (Mockshell and Birner 2015). Since production subsidies can sometimes result in negative environmental externalities, repurposing production subsidies to address dietary concerns while minimizing negative environmental impacts requires recognizing diverse food industry coalitions and reconciling contested policy beliefs to find consensus-oriented approaches (see Chapter 3 of this volume).

A prohibitive tax (sin tax) on ultra-processed foods could increase the price of these unhealthy foods (as producers and suppliers will pass the tax onto consumers) compared to healthy foods and limit their consumption (due to a decline in consumers' purchasing power) (see Mockshell et al. 2019). The belief of using food taxes among the coalitions identified in this chapter has a greater appeal to national governments compared to subsidies because of their revenue-raising potential. Taxes have been used by many countries as part of a broader strategy to reduce the burden of non-communicable diseases (Thow et al. 2018; Popkin 2020). Divergent beliefs on implementing sin taxes are still dominant in the food environment and have caused divisions among different actors. These divergent beliefs are particularly prevalent among private food industry actors as it would increase the cost of their product to consumers. In the case of Ghana, the state coalition has often been criticized for implementing sin taxes for self-interest, rather than for societal interest. This is the case in other developing economies (e.g., Mexico) where sin taxes have met resistance from food industry players.

While a sin tax is a politically unpopular policy, it is also a critical source of revenue for governments in developing economies. The regressive effects of implementing such a tax could also lead to higher food prices and the potential rise of CSO coalitions against national governments. To reduce tensions and align beliefs, one possibility is to invest the revenues generated from sin taxes into subsidy programs and education awareness campaigns promoting healthy foods. The tax could also be targeted at calorie dense foods or specific ingredients (e.g., sugar, fat, and salt) used in producing unhealthy foods instead of the whole food product as has been done in other countries, such as the United Kingdom (cf. Madden 2015; Wright et al. 2017; Thow et al. 2018). Increasing the cost of ultra-processed foods in Brazil has been modeled to decrease consumption of those foods (Pereda et al. 2019)and the prevalence of obesity (Mendes dos Passos et al. 2020).

Food companies can join efforts to provide a healthy food environment through self-regulation or voluntary regulations, awareness, and education. **Voluntary regulations** may help reduce public costs associated with such regulations, particularly in situations in which the government lacks the capacity to design and enforce regulations (Karnani et al. 2016). For example, in France, Siga is a company that indexes foods based on their degree of processing and provides guidance and services to businesses (Siga 2022). However, when there is a divergence between the interests of the food industry and society, self-regulation has unfortunately proven to be ineffective (Karnani et al. 2016). To make self-regulation effective and not self-serving, Sharma et al. (2010) propose a set of basic standards that include: multi-stakeholder engagements (involving scientists, nongovernmental organizations, global governance, and industry) with no single party given disproportionate power; setting relevant aims and targets with codes of acceptable behaviors; and undertaking external and objective evaluations, including mandatory public reporting of adherence to regulations, such as on labeling (discussed below), and oversight by a global regulatory or health authority.

Labeling and advertisement bans are examples of policy options that can play a critical role in reducing the demand of ultra-processed foods and eventually their availability in the food environment. As revealed in the discourses, for these policy options to work, the fundamental challenge of weak state capacity in regulating the food environment in Ghana must be addressed. With a strong state capacity, national governments could enforce food labeling and standards to support consumer decision making. The World Health Organization (WHO) recommends front-of-pack nutrition labels to guide consumers toward healthy foods, which some countries have adopted, such as Chile which uses a system of stop sign labels (see Jones et al. 2019 for a review of nutrition labeling regulations throughout the world). Labeling laws can be effective. For example, a labeling law in Mexico is predicted to reduce ultra-processed foods purchases by an amount equivalent to a 20 percent tax (Langellier et al. 2021). There is a need for

international standards in labeling ultra-processed foods. The Codex Alimentarius Commission, which is jointly sponsored by the FAO and WHO, was created to ensure fair practices and consumer protection in global food trade (Heilandt et al. 2013). Its standards are used as references for national standards for consumer protection and include labeling standards (FAO and WHO 2023), yet there is no standard for ultra-processed foods. Thus, the Codex Alimentarius Commission is a possible avenue to establish international standards regarding the labeling of ultra-processed foods, which governments could adopt.

Regulations targeting schools and children are more politically feasible options from the point-of-view of preserving freedom of choice in decisions. Policy options include bans on the sale, promotion, and donation of unhealthy foods at or near schools. There are examples of other countries adopting such regulations targeting children (see Taillie et al. 2019 and Kovacs et al. 2020 for reviews of existing regulations targeting children and schools, respectively). For example, South Korea has "Green Food Zones" where unhealthy foods cannot be advertised, provided, or sold (Bae et al. 2012). More paternal liberalism options have been put forth, such as making tempting foods less accessible or visible at or near schools, which have been found to decrease the amount of these foods being consumed (Wansink et al. 2006). Cohen and Babey (2012) similarly suggest that ultra-processed foods could be sold at the back of stores.

Ghana is headed in the right direction, but more urgent action is needed. For example, the MEALS4NCDs project seeks to measure and support policy actions to create healthy food environments for children in Ghana (Ghana, Ministry of Health and MEALS4NCDs 2021). In addition, Ghana updated a 2012 strategy in 2021 that recognizes interventions such as regulating advertisements of unhealthy foods to children, limiting trans fats and salt in processed foods, and implementing food-related health taxes; however, these interventions have not been made into law (Ghana, Ministry of Health 2021). Also in 2021, Ghana's Ministry of Health hosted a platform for stakeholders to contribute to designing food policies for healthier diets. At the meeting, the Director for Policy, Planning, and Monitoring and Evaluation at the Ministry of Health called for a paradigm shift that repositions the food system in Ghana from "feeding" to "nourishing" (Ghana, Ministry of Health and MEALS4NCDs 2021). Various policy options were discussed, such as controlling advertisements of unhealthy foods and beverages in and near schools and in the media, nutrition labeling, healthy school meal planning, subsidizing healthy foods, educating students and parents about diet-related diseases, and zoning regulations. A major challenge is funding, so selected interventions will likely be driven by cost-effectiveness. However, concern over the cost of such policy options may be offset by the dramatic adverse effects of overweight and obesity on the health and economics of individuals and the total population in Ghana (Lartey et al. 2020).

7.5 Conclusion

The food environment in developing economies is changing rapidly toward the consumption of ultra-processed foods, which is strongly linked to an increased risk of diet-related diseases. Through a case study in Ghana, this chapter focused on advancing our understanding of the role of policy beliefs and coalitions in ultra-processed food environments and the strategies to reduce persistent government and market failures. Findings from this study can be applied to other low- and middle-income countries that share similar policy, social, and food environments as Ghana. For example, like Ghana, other low- and middle-income countries have increasing urbanization (Menashe-Oren and Bocquier 2021), diet-related diseases (Miranda et al. 2019), and prevalence of convenience stores and supermarkets (Barrett et al. 2022). As national contexts are necessary for identifying coalitions and understanding policy beliefs, future research on ultra-processed food environments can focus on other low- and middle-income countries.

The evidence from this analysis highlights the need to unravel beliefs of policy stakeholders to find instrumental, structural, and discursive strategies that align market and state sector beliefs, as well as increase consumer awareness to improve the food environment in low- and middle-income countries. Paying close attention to stakeholder beliefs provides the added opportunity to foster alignments through policy-oriented learning, incentivizing coalitions, and reorienting actions toward a pathway leading to policy change. From the underlining complexities in the food environment, there appears not to be an easy way out as stakeholder beliefs do not align on all fronts. Though useful in shaping the current understanding, existing rational choice explanations for consumer demand and market supply have been inadequate in explaining the complexities and controversies of the ultra-processed food environment in Ghana.

This chapter provides a new perspective based on political economy analysis and the ACF to complement existing studies and contribute to a better understanding of the ultra-processed food environment. Acknowledging the implications of the consumption of ultra-processed foods, it is critical to find solutions that align the policy beliefs of the state, market, and CSO coalitions. As highlighted in the ACF, policy-oriented learning provides options to align policy beliefs of various coalitions to move toward a consensus and find solutions in the food environment. The shared policy beliefs of the actors provide a foundation to start the alignment process, while consensus via policy-oriented learning will be critical for updating policy beliefs of actors holding independent and divergent policy beliefs. It is also critical to examine both intra- and cross-coalition similarities and differences as these also influence how beliefs can be restructured to provide options for policy change in the food environment. Addressing food environment failures and reducing the risk of non-communicable diseases associated with obesity is not only

important from a food and nutrition perspective, but also for building resilience to unexpected shocks due to pandemics and accelerating the transformation of food systems.

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